direction of the inlet, and at a point where it will be best protected from the agitated water of the sound.

Between this Island and Roanoke Island the water is in one place 10½ feet deep. The length of the water line is 6,935 feet, the average depth for 645 feet is 8½ feet. For the remainder of the distance (6,290 feet) the greatest depth does not exceed 6 feet, and the average is 2 1-4 feet. The length of the embankment across the Island and the marshes on the margin of the sound, will be about one mile.

I propose the following plan of construction for the dam across Croatan Sound:

Cribs, 20 feet square, constructed of round logs not less than one foot in diameter, with a row of cross logs in the centre, and to be kept in position by five piles on each side. The cribs to be filled up with earth and capped with large flat stone 6 feet above ordinary water, which will place the top of the embankment beyond the reach of the greatest elevation of the waters in the sound. The earth of the embankment to have a slopeof 2 1-2 feet to 1 on the north side, and 2 to 1 on the south side, and to be protected on each shore by slope walls of stone.

The dam across Roanoke Sound, in the channels between Roanoke and Herring Islands, to consist of cribs 18 by 20 feet, made of round logs not less than a foot in diameter, and sustained in position by five piles on each side.

Across the channels, between the Banks and Herring Island, cribs 15+20 feet, kept in line by a pile on each side driven in every 5 feet. The whole capped, as above, with stone, and sustained on the sides by embankments of earth, with a slope of 1 to 1, six feet high, and 10 feet thick at top.

On Herring and Roanoke Islands and the banks, the dam to be constructed of an embankment of earth 12 feet thick at the base, 4 feet at top, and 5 feet high. The slopes and top to be protected from abrasion and from washing by a covering of stone, of which no danger of sinking need be apprehended, as they will not be disturbed by the sea. We have evidence of this, in the stones now to be seen, when the water is calm and clear at Ballast point, 3 miles above the site of the dam.

The bottom, as I have ascertained by borings in Croatan and Roanoke Sounds, consists of a mixture of sand and soil, affording a foundation for the dams, and a good consistency in which to drive piles.

The timbers to be covered in earth; in which situation they will be entirely secure from the ravages of the worm.